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None

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A4B

## (54) A racking system for electronic equipment modules

(57) A racking system (10) for standard nine and a half or nineteen inches wide and one and three quarter inch (or multiples thereof) high electronic equipment modules comprises a pair of uprights 12, 12 spaced apart by a distance corresponding to the module width at the front of the racking system (10) and a pair of front-to-back horizontal rails 24, 24 removably mounted to the respective uprights (12, 12) in cantilever at the same level as each other by means of threaded bolts (38) and welded hanks (36) and by means of hooks (40) engaging in holes (14, 20) in the uprights (12, 12).

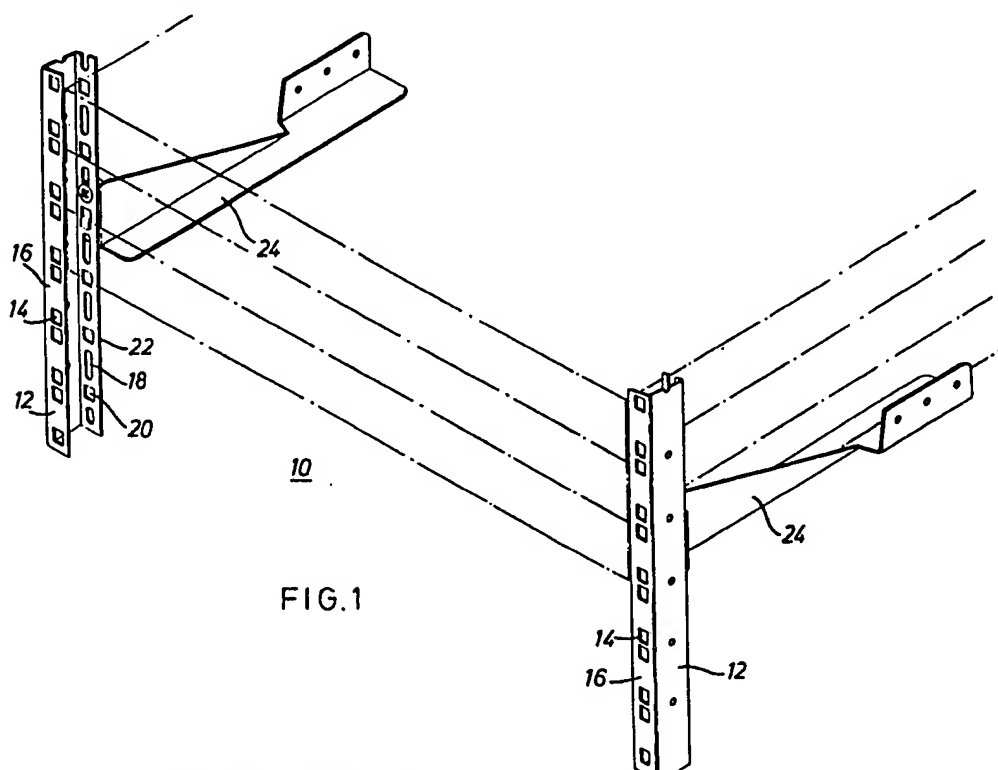
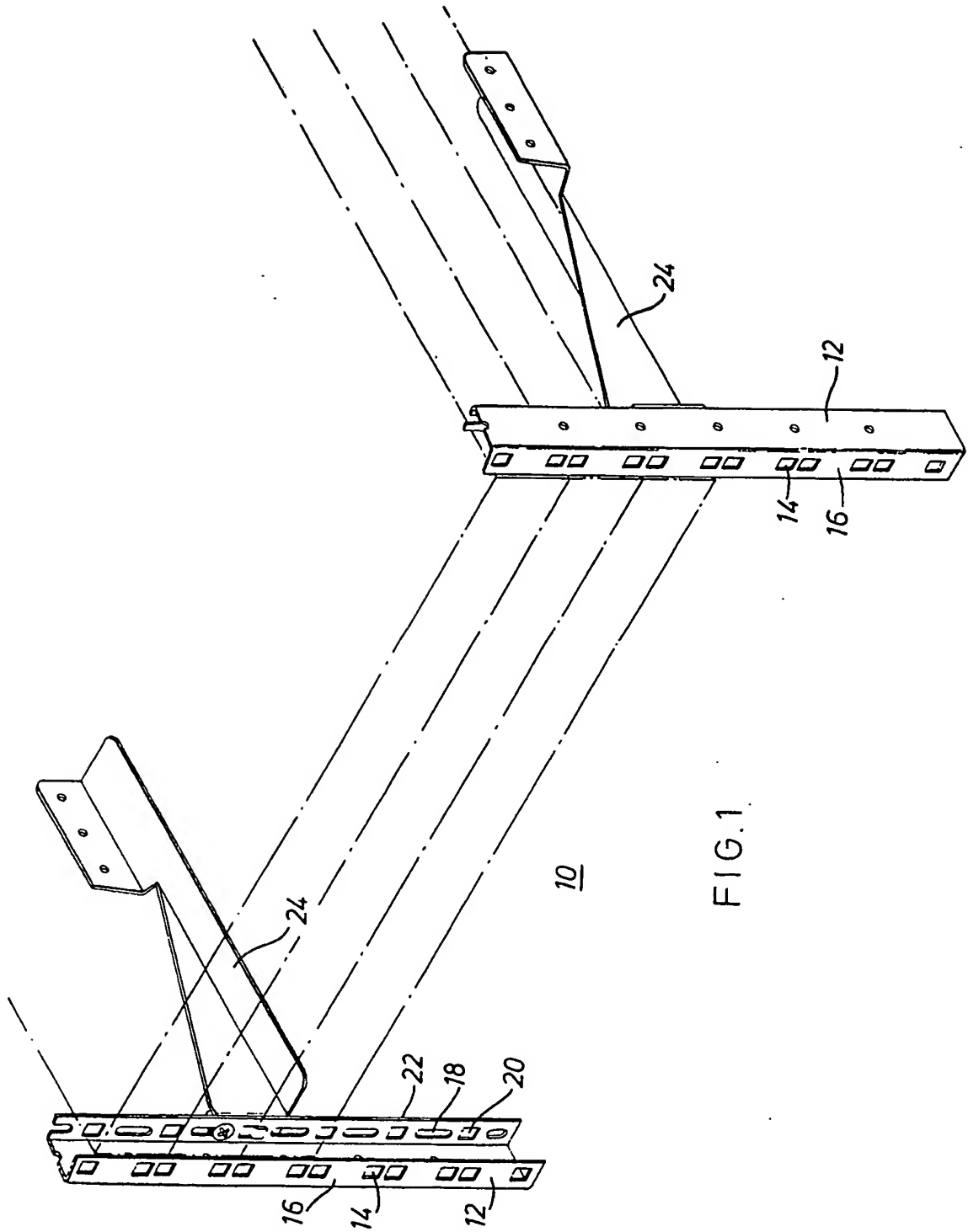


FIG.1

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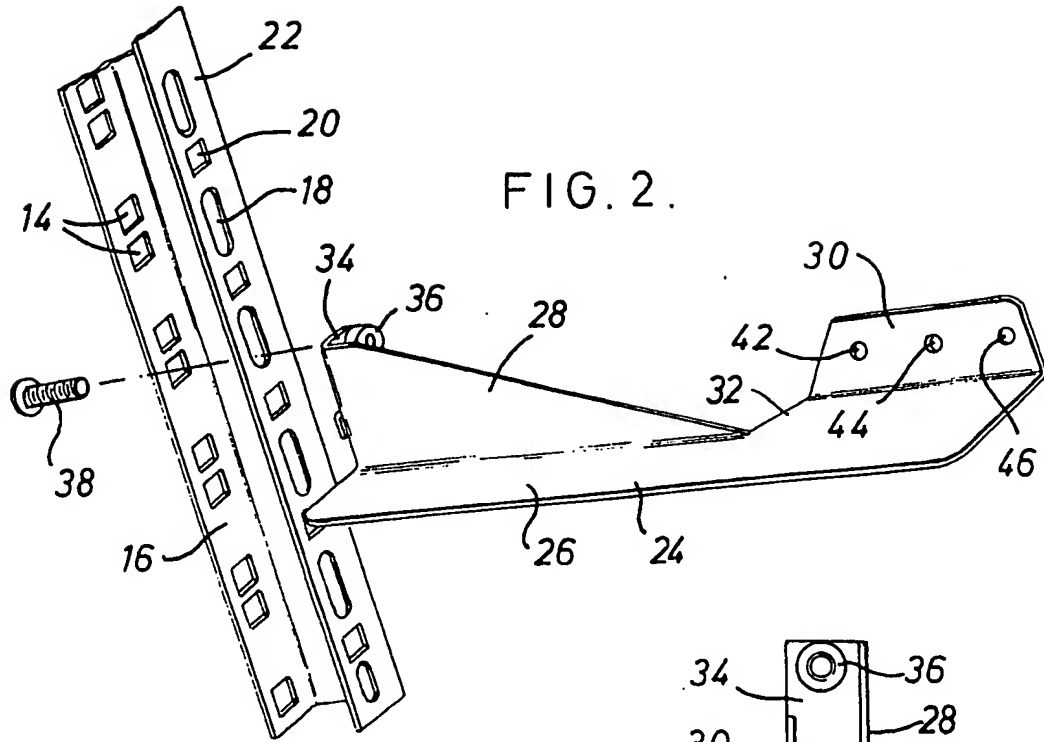


FIG. 2.

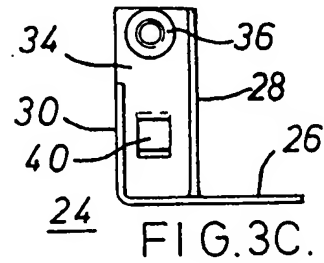


FIG. 3C.

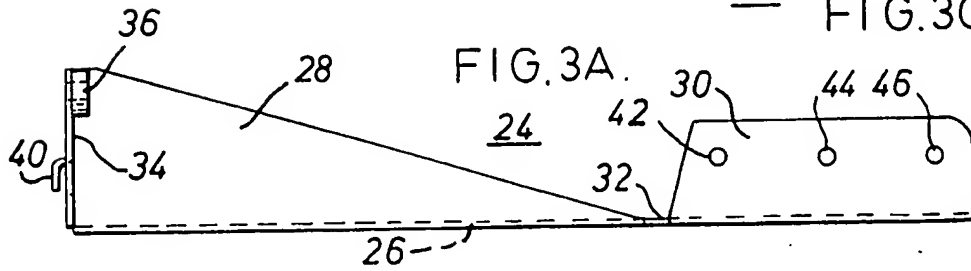


FIG. 3A.

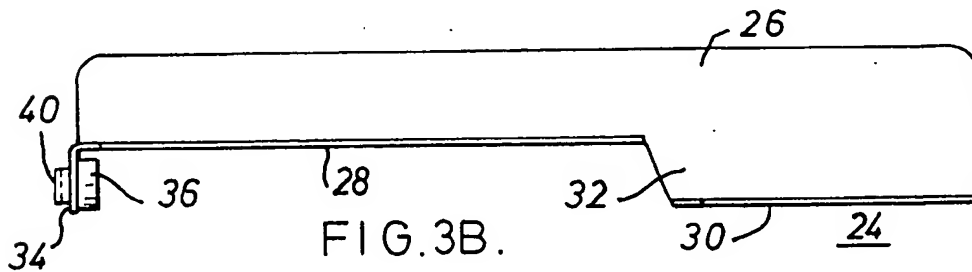


FIG. 3B.

## SPECIFICATION

### A racking system for electronic equipment modules

5 This invention relates to a racking system for electronic equipment modules of the standard nine and a half or nineteen inches width and one and three quarter inches or multiples thereof height. These dimensions are now standard for electronic equipment modules throughout much of the free world, if not throughout the whole world.

10 At least in its preferred form, the invention is intended to provide a racking system which is flexible in use and readily assembled and dissembled.

15 According to the present invention there is provided a racking system for electronic equipment modules of the standard nine and a half or nineteen inches width and one and three quarter inches or multiples thereof height, comprising at least one pair of uprights spaced apart by a distance corresponding to the module width at the front of the racking system and at least one pair of front-to-back horizontal rails removably mounted to the respective uprights in cantilever at the same level as each other.

20 Preferably, each upright has two series of holes along its length for the mounting of the rails, one series of holes being square and the other series of holes being oblong or obround slots, the square holes being on a front flange of the upright and the oblong or obround slots being on a rear flange of the upright.

25 Preferably each rail includes a hook at its front end to hook onto the respective upright, and a hank bush at its front end to engage a threaded bolt for mounting it to the respective upright.

30 For especially heavy modules, each rail is preferably provided at or near its rear end with fixing means to provide additional support to the rail.

35 The invention will be described by way of example with reference to the accompanying drawings, wherein:-

40 *Figure 1* is a partly diagrammatic prospective view of part of a racking system in accordance with the invention;

45 *Figure 2* is an exploded view of part of the racking system of Fig. 1; and

50 *Figures 3A, 3B and 3C* are respectively a side elevation, a plan view and an end view of a rail in the racking system of Figs. 1 and 2.

55 Referring to the drawings, the illustrated racking system 10 is designed for electronic equipment modules (not shown) of the standard nine and a half or nineteen inches width and one and three quarter inches or multiples thereof height and any depth. The racking system 10 comprises at least one pair of up-  
60 rights 12, 12 which

distance corresponding to the module width of nine and a half or nineteen inches at the front of the racking system 10. Each upright 12 has a series of square holes 14 in spaced-apart pairs on a front flange 16 and another series of oblong or obround slots 18, which alternate with a series of square holes 20, on a rear flange 22.

70 The racking system 10 also comprises at least one pair of front-to-back horizontal rails 24, 24 which are removably mounted to the respective uprights 12, 12 in cantilever at the same level as each other, for supporting the electronic equipment modules (not shown).

75 Each rail 24 comprises a horizontal shelf 26 designed for the electronic equipment module (not shown) to rest upon. Each rail 24 also comprises a front flange 28 and a rear flange 30. The front flange 28 is generally triangular, extending upwardly from one side of the shelf 26, whilst the rear flange 30 is quadrilateral and extends upwardly from a lateral extension 32 of the shelf 26. At the front end of the rail 24 is a vertical flange 34, extending laterally of the flange 28 and carrying at the top thereof a hank bush 36, which is like an internally screw-threaded nut which is welded, pressed or secured in some other way to the flange 34 to engage a threaded bolt 38, extending through one of the holes 18, for mounting the rail 24 to the respective upright 12. Each rail 24 is also provided at its front end with a hook 40 to hook through one of the holes 20 onto the flange 22 of the respective upright 12. Accordingly, by means of the hank 36, the bolt 38 and the hook 40, engaged in the holes 18, 20, the rail can be removably mounted to the respective upright 12 in cantilever (that is to say, the rail 24 being supported only at its front end, with its rear and unsupported).

80 In this way, in the event that the rails 24 (which are provided at the same level as each other to support a given module) need to be moved, access is only required to the front ends of the rails 24, not to their rear ends.

85 Most electronic equipment modules are light enough in weight for cantilever support of the rails 24 to be sufficient. Each rail 24 is provided with three holes 42, 44, 46 on its rear flange 30, for fixing to the module, using ordinary nuts and bolts.

## CLAIMS

120 1. A racking system for electronic equipment modules of the standard nine and a half or nineteen inches width one and three quarter inches or multiples thereof height, comprising at least one pair of uprights spaced apart by a distance corresponding to the module width at the front of the racking system and at least one pair of front-to-back horizontal rails removably mounted to the respective uprights in cantilever at the same level as each

2. A racking system as claimed in Claim 1 wherein each upright has at least one series of holes along its length for the mounting of the rails.
- 5 3. A racking system as claimed in Claim 2 in which the or at least one series of holes are square.
4. A racking system as claimed in Claim 2 or 3 in which the or one series of holes are oblong or obround slots.
- 10 5. A racking system as claimed in Claim 4 dependent on claim 3 wherein the square holes are in a first series on a front flange and in a second series on a rear flange of the upright and the oblong or obround slots are on the rear flange of the upright, alternating with the second series of square holes.
- 15 6. A racking system as claimed in any preceding claim wherein each rail includes a hook at its front end to hook into the respective upright.
- 20 7. A racking system as claimed in any preceding claim wherein each rail includes a hank bush at its front end to engage a threaded bolt for mounting it to the respective upright.
- 25 8. A racking system as claimed in any preceding claim wherein each rail is provided at or near its rear end with fixing means.

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